

## 2007 Through 2011 Capital improvement Projects – DeKalb County Department of Watershed Management

No.	Project Description	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total Project Budget
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
	<b>Water Projects:</b>							
1	Hypochlorite Generation	\$0	\$3,000,000	\$0	\$0	\$0		\$3,000,000
2	Henderson Booster Pumping Station	\$0	\$87,000	\$0	\$0	\$0		\$87,000
3	Tucker Ground Storage Repump Station	\$0	\$75,000	\$0	\$0	\$0		\$75,000
4	Midvale Booster Pumping Station	\$0	\$62,000	\$0	\$0	\$0		\$62,000
5	Spare Bowls for Transfer Pumps	\$0	\$340,000	\$0	\$0	\$0		\$340,000
6	Raw Water Pump Motor	\$0	\$160,000	\$0	\$0	\$0		\$160,000
7	Water Tank Painting	\$0	\$1,500,000	\$1,000,000	\$1,000,000	\$1,000,000		\$4,500,000
8	Cath. Protection for Water Tanks	\$0	\$0	\$750,000	\$500,000	\$500,000	\$500,000	\$2,250,000
9	North Shallowford Pumping Station Upgrade	\$0	\$1,500,000	\$1,500,000	\$0	\$0		\$3,000,000
10	Tilley Mill Pumping Station Upgrade	\$0	\$800,000	\$0	\$0	\$0		\$800,000
11	Robert Drive Storage Tank and Booster Pump Station -Const	\$0	\$1,000,000	\$0	\$0	\$0		\$1,000,000
12	Robert Drive Storage Tank and Booster Pump Station - Design	\$750,000	\$0	\$0	\$0	\$0		\$750,000
13	Dunwoody Pipe Replacement	\$0	\$0	\$3,000,000	\$0	\$0		\$3,000,000
14	Auto Meter Reading	\$0	\$200,000	\$1,000,000	\$1,000,000	\$1,000,000		\$3,200,000
15	South River Water Plant - Feasibility Study	\$0	\$1,300,000	\$3,900,000	\$0	\$0		\$5,200,000
16	Water Meter Installation	\$1,500,000	\$1,650,000	\$1,820,000	\$2,000,000	\$2,200,000		\$9,170,000
17	Water Service Line Renewal - Annual	\$600,000	\$660,000	\$726,000	\$798,600	\$878,460		\$3,663,060
18	Water Meter Replacement	\$2,851,037	\$3,136,141	\$3,449,755	\$3,794,731	\$4,174,204		\$17,405,868
19	Scott Candler Header Piping Emergency Repair	\$1,083,680	\$0	\$0	\$0	\$0		\$1,083,680
20	Scott Candler Electrical System Emerg. Repair	\$239,375	\$0	\$0	\$0	\$0		\$239,375
21	Vulnerability Assessment Study - Water	\$0	\$100,000	\$0	\$0	\$0		\$100,000
22	Water System Security Design & Installation	\$0	\$2,500,000	\$2,750,000	\$3,025,000	\$3,327,500		\$11,602,500
23	Annual Water Construction Contract	\$2,772,459	\$3,049,705	\$3,354,676	\$3,690,143	\$4,059,158		\$16,926,141
24	Subdivisions & Water Main Extensions	\$100,454	\$110,500	\$121,550	\$133,705	\$147,075		\$613,284
25	Fireline Installation Contract	\$95,163	\$104,680	\$115,148	\$126,662	\$139,329		\$580,982
26	Annual Engineering Contract	\$1,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000		\$13,000,000
27	County Main Renewal, County Forces	\$2,601,614	\$2,861,776	\$3,147,953	\$3,462,749	\$3,809,024		\$15,883,116
28	Replace Scott Blvd Water Main	\$0	\$4,000,000	\$0	\$0	\$0		\$4,000,000
29	Replace Candler Rd Water Main	\$0	\$4,000,000	\$0	\$0	\$0		\$4,000,000

## 2007 Through 2011 Capital improvement Projects – DeKalb County Department of Watershed Management

30	Replace Glenwood 36"-42" PCP Water Main	\$0	\$5,000,000	\$0	\$0	\$0	\$5,000,000
31	New Chattahoochee River Raw Water Intake and Pumping Station	\$30,000,000	\$3,000,000	\$0	\$0	\$0	\$33,000,000
32	Existing Chattahoochee River Raw Water Intake and Pumping Station	\$0	\$0	\$4,000,000	\$0	\$0	\$4,000,000
33	Raw Water Transmission Line	\$17,000,000	\$3,000,000	\$0	\$0	\$0	\$20,000,000
34	Additional Clear Wells & Pumping Stations	\$0	\$17,800,000	\$17,900,000	\$0	\$0	\$35,700,000
35	Replace Steel Drive Booster Station	\$0	\$0	\$0	\$1,300,000	\$0	\$1,300,000
36	Replace Henderson Booster Station	\$0	\$0	\$0	\$2,000,000	\$0	\$2,000,000
37	Upgrade Water Pumping Stations	\$0	\$600,000	\$0	\$0	\$0	\$600,000
38	Install Transfer Pumps	\$0	\$500,000	\$0	\$0	\$0	\$500,000
39	Rehab/Replace Gas Station Pumps	\$0	\$250,000	\$0	\$0	\$0	\$250,000
40	Lawn Maintenance Equipment	\$0	\$25,000	\$0	\$0	\$0	\$25,000
41	Water and Wastewater Master Plan	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$0	\$3,000,000
42	Snapfinger - Ultraviolet Disinfection	\$0	\$3,175,000	\$0	\$0	\$0	\$3,175,000
43	Pole Bridge - Ultraviolet Disinfection	\$0	\$0	\$3,175,000	\$0	\$0	\$3,175,000
44	Snapfinger Solids Handling Upgrade	\$500,000	\$3,000,000	\$1,500,000	\$0	\$0	\$5,000,000
45	Influent Lift Station Upgrade Project - Snapfinger	\$1,000,000	\$500,000	\$0	\$0	\$0	\$1,500,000
46	Scum System Upgrade - Snapfinger	\$0	\$80,000	\$0	\$0	\$0	\$80,000
47	Vulnerability Assessment Study - Sewer	\$0	\$200,000	\$0	\$0	\$0	\$200,000
48	Wastewater System Security Design & Installation	\$0	\$750,000	\$750,000	\$0	\$0	\$1,500,000
49	Manhole Raising Contract	\$2,100,000	\$2,310,000	\$2,541,000	\$2,795,100	\$3,074,610	\$12,820,710
50	Hydraulic Pump Purchase	\$50,000	\$0	\$0	\$0	\$0	\$50,000
51	Lift Station Radio Upgrade	\$500,000	\$0	\$0	\$0	\$0	\$500,000
52	Water and Sewer Relocation Adjust for Roadway	\$0	\$13,000,000	\$8,800,000	\$9,680,000	\$10,648,000	\$42,128,000
53	Pipe Bursting	\$3,000,000	\$5,000,000	\$5,500,000	\$6,050,000	\$6,655,000	\$26,205,000
54	Manhole Rehabilitation	\$3,000,000	\$3,000,000	\$3,300,000	\$3,630,000	\$3,993,000	\$16,923,000
55	Pipercams Purchase	\$48,000	\$100,000	\$0	\$0	\$100,000	\$248,000
56	Smoke Testing	\$350,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$4,350,000
57	Service Lateral Maintenance and Rehabilitation	\$0	\$2,000,000	\$2,200,000	\$2,420,000	\$2,662,000	\$9,282,000
58	Closed Circuit TV (CCTV) Inspection	\$3,500,000	\$10,000,000	\$11,000,000	\$12,100,000	\$13,310,000	\$49,910,000
59	Flow Monitoring	\$1,836,500	\$1,985,000	\$1,650,000	\$1,815,000	\$1,996,500	\$9,283,000
60	Relining	\$2,000,000	\$7,000,000	\$7,700,000	\$8,470,000	\$9,317,000	\$34,487,000
61	Vegetation Clearing	\$1,000,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$11,000,000
62	Water and Wastewater Modeling Assistance	\$100,000	\$200,000	\$220,000	\$242,000	\$266,200	\$1,028,200
63	Lift Station Upgrade/Rehab.	\$1,000,000	\$7,000,000	\$7,700,000	\$8,470,000	\$9,317,000	\$33,487,000

## 2007 Through 2011 Capital improvement Projects – DeKalb County Department of Watershed Management

64	Sewer and Manhole Inspection Study	\$3,500,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000		\$19,500,000
65	City of Atlanta RM Clayton/System - Credit	-\$10,000,000	\$0	\$0	\$0	\$0		-\$10,000,000
66	City of Atlanta RM Clayton/System Upgrades	\$0	\$8,000,000	\$8,000,000	\$8,000,000	\$1,000,000		\$25,000,000
67	Snapfinger WWTP Expansion - Design/Bid	\$500,000	\$12,352,941	\$5,147,059	\$0	\$0		\$18,000,000
68	Snapfinger WWTP Expansion - Const. Management	\$0	\$0	\$0	\$1,000,000	\$3,000,000	\$2,000,000	\$6,000,000
69	Snapfinger WWTP Expansion - Construction	\$0	\$0	\$0	\$37,500,000	\$150,000,000	\$112,500,000	\$300,000,000
70	Pole Bridge WWTP Expansion - Design/Bid	\$500,000	\$7,411,765	\$3,088,235	\$0	\$0		\$11,000,000
71	Pole Bridge WWTP Expansion - Const. Management	\$0	\$0	\$833,333	\$2,500,000	\$1,666,667		\$5,000,000
72	Pole Bridge WWTP Expansion - Construction	\$0	\$0	\$25,000,000	\$100,000,000	\$75,000,000		\$200,000,000
73	Snapfinger and Pole Bridge Interplant Tunnel Design/Bid	\$500,000	\$11,209,059	\$4,670,441	\$0	\$0		\$16,379,500
74	Snapfinger and Pole Bridge Interplant Tunnel Const. Management	\$0	\$0	\$1,133,333	\$3,400,000	\$2,266,667		\$6,800,000
75	Snapfinger and Pole Bridge Interplant Tunnel Construction	\$0	\$0	\$21,875,000	\$87,500,000	\$65,625,000		\$175,000,000
76	East Area Tunnel Design/Bid	\$252,297	\$5,656,013	\$2,356,672	\$0	\$0		\$8,264,982
77	East Area Tunnel Const. Management	\$0	\$0	\$0	\$571,872	\$1,715,616	\$1,143,744	\$3,431,233
78	East Area Tunnel Const. Construction	\$0	\$0	\$0	\$11,037,973	\$44,151,893	\$33,113,919	\$88,303,785
79	CIP Upgrade to Jackson Creek - Gwinnett Cnty	\$1,100,000	\$1,000,000	\$1,000,000	\$0	\$0		\$3,100,000
80	Redirect Sewer Flow from Gwinnett to Shoals Creek	\$200,000	\$0	\$0	\$0	\$0		\$200,000
81	Lower Crooked Creek Lift Station Flow Monitoring Systems	\$100,000	\$550,000	\$0	\$0	\$0		\$650,000
82	Lower Cr. Creek Pump Station & FM Upgrade	\$0	\$700,000	\$3,000,000	\$3,000,000	\$3,000,000		\$9,700,000
83	Stone Crest Sanitary Sewer Upgrade - Design	\$750,000	\$0	\$0	\$0	\$0		\$750,000
84	Stone Crest Sanitary Sewer Upgrade - Const	\$0	\$8,000,000	\$2,500,000	\$0	\$0		\$10,500,000
85	Snapfinger WWTP SCADA - Design Project	\$350,000	\$0	\$0	\$0	\$0		\$350,000
86	Snapfinger WWTP SCADA - Const Project	\$750,000	\$750,000	\$0	\$0	\$0		\$1,500,000
87	Snapfinger Condition Assessment & Modeling	\$270,000	\$0	\$0	\$0	\$0		\$270,000
88	Portable Bypass Pumps	\$1,000,000	\$0	\$0	\$0	\$0		\$1,000,000
89	Honey Creek Lift Station Upgrade - Design	\$400,000	\$0	\$0	\$0	\$0		\$400,000
90	Honey Creek Lift Station Upgrade - Const	\$200,000	\$2,500,000	\$0	\$0	\$0		\$2,700,000
91	New Roadhaven Building	\$8,000,000	\$0	\$0	\$0	\$0		\$8,000,000
92	Water Systems Interconnections	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000		\$4,000,000
93	Sanitary Sewer Forcemain Location	\$0	\$500,000	\$0	\$0	\$0		\$500,000
94	Program Mod./Capital/Fleet Contribution	\$0	\$6,600,000	\$7,260,000	\$7,986,000	\$8,784,600		\$30,630,600
95	DWM Business Plan	\$0	\$400,000	\$0	\$0	\$0		\$400,000
96	Septic Tank Elimination Program	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000		\$4,000,000
<b>TOTAL</b>		<b>\$88,950,579</b>	<b>\$200,801,580</b>	<b>\$203,935,156</b>	<b>\$354,499,535</b>	<b>\$451,284,502</b>	<b>\$149,257,664</b>	<b>\$1,448,729,016</b>

## 1: Hypochlorite Generation

---

### Background

Sodium hypochlorite is a chemical used to maintain mandatory disinfection residuals in the drinking water produced at the new Scott Candler Water Treatment Plant. Over the past few years, raising transportation costs coupled with increased demand for the sodium hypochlorite and reduced overall production have nearly doubled the cost of bulk delivered sodium hypochlorite. At the same time technological advancements in hypochlorite generation equipment have increased the reliability, the safety, and efficiency of on-site generation.

Studies conducted by the Department of Watershed Management (Department) in September 2005 indicated that the new Plant's "spare" chemical storage area was of sufficient size and is an ideal location for the generation of sodium hypochlorite, providing easy access for the delivery of raw materials and the electrical demands required to operate the generation equipment.

### Project Description

The Department proposes to install 3 on-site redundant low concentration hypochlorite generation units and sufficient on-site storage units providing enough storage for approximately 30 days supply of the product.

### Estimated Design and Construction Costs

Design:	\$250,000.00
Construction:	<u>\$2,750,000.00</u>
<b>Total:</b>	<b><u>\$3,000,000.00</u></b>

### Schedule

Design: Start November 2007 and End May 2008.

Construction: Start November 2008 and End October 2009.

## **2: Henderson Booster Pumping Station**

---

### **Background**

The Henderson booster pump station consist of 3 In-line vertical pumps mounted horizontally. The station is over 25 years old. The Tucker distribution system is a closed system unto itself. The Tucker distribution system consist of four key stations; Henderson, Midvale, Steel Drive, and the Tucker Standpipe. All these stations are critical, especially during the high demands of the season. It takes almost all stations to maintain pressure during peak demand. These requirements leave very little room for equipment down time. The drought of 2007 has brought many challenges to the Department.

### **Project Description**

The Department proposed to install 3 new Allen Bradley motor control centers (MCC's). The station has an emergency standby generator with a manual transfer switch. The switch needs to be replaced with an automatic transfer switch.

### **Estimated Cost**

Construction:           \$87,000.00

### **Schedule**

Start March 2008 and End December 2008.

### **3: Tucker Ground Storage Repump Station**

---

#### **Background**

The Tucker standpipe consists of 1 vertical pump. It is over 35 years old. The Tucker distribution system is a closed system unto itself. The Tucker distribution system consist of 4 key stations; Henderson, Midvale, Steel Drive, and the Tucker Standpipe. All these stations are critical, especially during the high demands of the summer. It takes almost all the stations to maintain pressure during peak demand. These requirements leave very little room for equipment down time. The drought of 2007 has brought many challenges to the Department.

#### **Project Description**

The Department proposes to install 1 new Allen Bradley motor control center (MCC's). The station also has an emergency standby generator with a manual transfer switch. The switch needs to be replaced with an automatic transfer switch.

#### **Estimated Cost**

Construction:           \$75,000.00

#### **Schedule**

Start March 2008 and End December 2008.

## **4: Midvale Booster Pumping Station**

---

### **Background**

The Midvale station consists of 2 split case pumps mounted horizontally. The Midvale station is over 30 years old. The Tucker distribution system is a closed system unto itself. The Tucker distribution system consist of 4 key stations; Henderson, Midvale, Steel Drive, and the Tucker Standpipe. All these stations are critical, especially during the high demands of the summer. It takes almost all the stations to maintain pressure during peak demand. These requirements leave very little room for equipment down time. The drought of 2007 has brought many challenges to the Department.

### **Project Description**

The Department proposes to install 2 new Allen Bradley motor control centers (MCC's).

### **Estimated Cost**

Construction:           \$62,000.00

### **Schedule**

Start March 2008 and End December 2008.

## **5: Spare Bowls for Transfer Pumps**

---

### **Background**

The new Scott Candler Water Treatment Plant has a rated capacity of 150 MGD with a maximum of 180 MGD. All finished water must be processed through the clearwell transfer pumps. Over the past few decades, the lime has collected at the bottom of the clearwell. It acts as sand paper on pumps. On average 3 pumps are rebuilt each year. The delivery time for a pump-bowl is between 9 months to 1 year.

### **Project Description**

The Department proposed to purchase and stock several spare bowl assemblies.

### **Estimated Cost**

Construction:           \$340,000.00

### **Schedule**

Start March 2008 and End December 2008.



## **6: Raw Water Pump Motor**

---

### **Background**

The Chattahoochee River Raw Water Pumping Station consists of 6 pumps. The 2000 HP motor for pump # 6 has to be replaced due to damage caused by the vendor. These pumps are the first step in providing water to DeKalb County. It is critical that these pumps are operational. During the high demands of summer, it takes all 6 pumps to meet demands. The delivery time for a new motor is 9 months.

### **Project Description**

The Department has already ordered the motor and the motor is scheduled to arrive around February of 2008.

### **Estimated Cost**

Construction:           \$160,000.00

### **Schedule**

Start June 2007 and End February 2008.

## 7: Water Tank Painting

---

### Background

**McAfee Elevated Tank:** This tank is located between Candler Road and Normal Road, behind fire station No. 6. The existing 500,000-gallon tank was constructed in 1953 and in 1996 it was repainted. An inspection report, dated 2002, indicates evidence of corrosion attacks and coating degradation.

**Clairmont Elevated Tank:** This tank is located at 1901 Mason Mill Road, east of Clairmont Road, overlooking the Veterans Administration Hospital. This 1 million gallon elevated tank was built in 1941 and repainted in 1996. An inspection report, dated 2002, indicates evidence of corrosion attacks, coating degradation, and cracks in concrete footing.

**Tucker Elevated and Tucker Grounding Storage Tank:** The two tanks are located at 1750 Stone Ridge Road and 4226 Lawrenceville Highway, respectively. Tucker Ground Tank has a capacity of 1 million gallons. Elevated tank has 500,000 gallons capacity. Both tanks were repainted in 1996. Engineering assessments, completed in 2002, show evidence of corrosion and pitting. There is also evidence of cracks in the concrete pavement. The report recommends cleaning and re-coating areas of corrosion and pitting.

**Decatur Elevated Tank:** This tank is located at 1129 W. Howard Avenue and holds 500,000 gallons of water. The tank was repainted in 1996. An inspection report, dated 2002, indicates evidence of corrosion attacks and coating degradation.

**Whites Mill Ground Storage Tank:** This tank is located at 2346 Jenay Ct and Whites Mill Road. Whites Mill Tank has a 5 million gallon capacity. The existing tank foundation has cracks. There is also a sign of potential gasket failure which is causing wetness.

**Redan Steel and Concrete Ground Storage Tank:** The tanks are located at 1300 Panola Road. Both tanks have a storage capacity of 5 million gallons each. These tanks were cleaned and painted in 1996. Based on a 2003 report, there is significant corrosion, coating degradation and pitting in the tanks. Therefore, it warrants immediate rehabilitation. The 2003 report also suggests the possibility of an exposed reinforcement on the exterior.

**Wesley Chapel Ground Storage Tank:** The tank has 5 million gallons of storage. The tank is located at 3337 Wesley Chapel Road, in Decatur. In 1996 significant renovation was done to prepare for the Olympics. The engineering inspection report from 2003 recommends that corrective action be taken on the corroded metallic fixtures to preserve the service life of the tank.

**Columbia Concrete and Steel Ground Tanks:** The steel tank has a capacity of 4 million gallons. The concrete tank also has 3 million gallons of capacity, and was constructed in 1971. The tanks are located at 1770 Columbia Drive, in Decatur. The tanks were last painted in 1996. A 2003 inspection report recommends pressure cleaning of concrete tank interior, and repainting

the steel tanks to maximize the service life of these tanks. The reports on the steel tanks suggest the appearance of significant corrosion, pitting, and coating degradation in the tank.

### **Project Description**

In order to preserve the integrity of coating as well as the serviceability of the water storage tanks at the various tank locations, the Department proposes to implement effective water storage tank repainting program. This program will include sand blasting both the interior and exterior of the above-mentioned tanks to the metal, repairing pitting, repairing miscellaneous aging parts/fixtures, and repainting tanks in order to enhance the service life of these tanks. This operation will ensure that the Department is able to supply DeKalb County citizens with clean and safe drinking water while maintaining adequate water pressure in the distribution system.

### **Estimated Construction Costs**

Construction:	\$4,100,000.00
Construction Management:	<u>\$400,000.00</u>
<b>Total:</b>	<b><u>\$4,500,000.00</u></b>

### **Schedule**

Construction: Start March 2008 and End April 2011.

## 8: Cathodic Protection for Water Tanks

---

### Background

Currently, there are a total of 8 existing steel elevated water storage tanks, and 7 existing steel above-ground storage tanks in the DeKalb County Water Distribution System. The tanks were built between 1953 and 1983. On average, the steel tanks are painted once every 10 years. Currently, the steel tanks are not equipped with Cathodic Protection (CP); a process that prevents accelerated corrosion attack to the interior of the tank and extends the useful life of a coating by almost two to three times.

The Department is hereby proposing a CP Program for the existing steel water storage tanks to preserve and extend their useful life.

### Project Description

The Department proposes to provide Cathodic Protection (CP) to protect and extend the useful life of the existing steel water storage tanks. Innovative CP is comprised of ceramic-coated wire anodes and a flotation and support system, thereby continuously protecting the tank from further corrosive damage. However, the CP Program must be implemented prior to application of coating in dry conditions.

### Estimated Design and Construction Costs

Design:	\$200,000.00
Construction Management:	<u>\$150,000.00</u>
Subtotal:	<u><b>\$350,000.00</b></u>
Construction:	\$1,900,000.00
<b>Total:</b>	<u><b>\$2,250,000.00</b></u>

### Schedule

Design: Start February 2008 and End December 2010.

Construction: Start May 2008 and End March 2011.

## 9: North Shallowford Pumping Station Upgrade

---

### Background

The Department has embarked on a plan to convert the North Shallowford Road Booster Pumping Station facility to an above-ground booster pumping station. The current booster pumping station is located below ground, in the middle of the intersection of North Shallowford Road and Peeler Road. The new location is proposed to be on a 2-acre property currently owned by the Parks and Recreation Department; in the vicinity of Chamblee-Dunwoody Road and Vermack Road.

Because of the current location of the booster pumping station, it presents considerable danger and risks for the staff with respect to on-going operation and maintenance. Also, to improve the operational efficiency and adequately satisfy water supply needs for the Dunwoody distribution area, it is proposed to site the new above-ground water booster pumping station near Chamblee-Dunwoody Road and Vermack Road.

Jordan Jones and Goulding, Inc. (JJG) is currently studying the feasibility and impact of locating the new booster pumping station near Chamblee-Dunwoody Road and Vermack Road.

### Project Description

Decommission the existing North Shallowford Road Booster Pumping Station and install a new booster pumping station in the vicinity of the intersection of Chamblee-Dunwoody Road and Vermack Road to adequately service the Dunwoody water distribution area.

### Estimated Design and Construction Costs

Design:	\$300,000.00
Construction Management:	<u>\$100,000.00</u>
Subtotal:	<u><b>\$400,000.00</b></u>
Construction:	\$2,600,000.00
<b>Total:</b>	<u><b>\$3,000,000.00</b></u>

### Schedule

Construction: Start April 2007 and End December 2009.

## 10: Tilly Mill Pumping Station Upgrade

---

### Background

The Department desires to implement a plan to upgrade the existing Tilly Mill Booster Pumping Station facility to an above-ground booster pumping station. The current 1 MGD, below-ground, booster pumping station is located at 5207 Tilly Mill Road.

Due to the limiting capabilities of operating the existing booster pumping station system and addressing the current and future water supply needs of the Dunwoody area, the Department is proposing to upgrade the Tilly Mill Booster Pumping Station. The new booster pumping station is anticipated to be installed adjacent to the existing facility. Following commissioning of the new booster pumping station, the existing system will be demolished.

Jordan Jones and Goulding, Inc. (JJG) is currently performing the design services required for the new above-ground Tilly Mill Booster Pumping Station Facility.

### Project Description

The Department proposes to design and install new above-ground Tilly Mill Booster Pumping Station Facility to accommodate water supply needs for the Dunwoody water distribution area.

### Estimated Design and Construction Costs

Design:	\$130,000.00
Construction Management:	<u>\$70,000.00</u>
Subtotal:	<u><b>\$200,000.00</b></u>
Construction:	\$600,000.00
<b>Total:</b>	<u><b>\$800,000.00</b></u>

### Schedule

Construction: Start March 2007 and End December 2009.

## 11 & 12: Roberts Drive Storage Tank and Booster Pump

---

### Background

The existing Roberts Drive Storage Tank and Booster Pump Station facility is located at 5335 Roberts Drive, in Dunwoody. The concrete ground storage tank has a capacity 1 million gallons. The facility was originally designed to store and maintain adequate water pressure in the distribution system. In recent years, due to the rapid development in the Dunwoody area, the current water distribution system has been experiencing low pressures, during periods of high demand. A recent study conducted by the Department recommends upgrade of the existing infrastructure to accommodate a capacity of a new 5 million gallon water storage tank, booster pump station and appurtenance to satisfy current and future water supply needs for the area.

### Project Description

The Department proposes to install of a new 5 million gallon capacity water storage tank, associated booster pump station, and appurtenances in the vicinity of the existing Roberts Drive Park. The new Roberts Drive Water Tank and Pumping System are required to enhance the water distribution system and service to the Dunwoody area.

### Estimated Design and Construction Costs

Design:	\$750,000.00
Construction:	<u>\$1,000,000.00</u>
<b>Total:</b>	<b><u>\$1,750,000.00</u></b>

### Schedule

Construction: Start September 2008 and End December 2009.

## 13: Dunwoody Pipe Replacement

---

### Background

Due to the anticipated population growth in Dunwoody over the next 30 years, modifications and improvements to the water transmission system are required. The Department is currently working with Jordan Jones & Goulding, Inc. (JJG) to conduct water supply modeling activities for the Dunwoody Water Distribution system, in an effort to satisfy existing and future water needs for the area. The modeling and recommendations are expected in the first quarter of 2008.

### Project Description

The Department purposes to design and install primary water pipeline infrastructure to accommodate current and future water supply needs for the Dunwoody Water Distribution system.

### Estimated Design and Construction Costs

Design:	\$400,000.00
Construction:	<u>\$2,600,000.00</u>

<b>Total:</b>	<b><u>\$3,000,000.00</u></b>
---------------	------------------------------

### Schedule

Construction: Start May 2007 and End December 2010.



## 14: Auto Meter Reading

---

### Background

The Department currently utilizes a combination of manual, touch-read, and drive by methods to read commercial and residential water meters. These error prone methods prevent the Department from billing monthly, and results in multiple adjustments, lost revenue, and poor customer service.

### Project Description

DeKalb County is ultimately interested in contracting for a full range of energy, and utility services and related capital improvements financed, or partially financed, through a performance based contract, guaranteed savings, or similar agreement which:

- Incurs no initial capital costs (with the option for DeKalb County to provide initial and/or annual capital contributions if desired).
- Achieves significant long-term cost savings.
- Achieves a guarantee for cost savings (with a DeKalb County option to eliminate part, or all of the guarantee after 3 years of guaranteed performance).
- Improves the accuracy of water billing by replacing, or rebuilding defective water meters.
- Provides technology for the electronic reading of water meters, and the electronic transmission of customer consumption data into a billing/accounting system.
- Provides a wireless communications backhaul to handle traffic associated with SCADA, AMR, CCTV, and other applications.
- Captures additional benefits that may directly result from energy and technology related services.

### Estimated Costs

Study: \$200,000.00

Construction: \$3,000,000.00

**Total: \$3,200,000.00**

### Schedule

Design: Start January 2008 and End June 2008.

Installation: Start July 2008 and End December 2010.

Note: This project will continue beyond the year 2010.

## 15: South River Water Plant – Feasibility Study

---

### Background

Currently, DeKalb County has one drinking water plant; the Scott Candler Water Treatment Plant. Although the Scott Candler Water Treatment Plant has adequate capacity to meet present and projected 50-year water demand, the County does not have any water treatment redundancy in the remote event that the plant is rendered out of commission by a catastrophic event.

With respect to wastewater treatment capacity, the County has two treatment plants, Snapfinger and Pole Bridge Creek Wastewater Treatment Plants, and has wastewater treatment agreements with the City of Atlanta and Gwinnett County whereby the City of Atlanta can accept up to 50 MGD and Gwinnett can accept up to 5 MGD. Projected future increases in wastewater flows will require the expansion of both the Snapfinger and Pole Bridge Creek WWTP. The projected increases in raw water withdrawals from the Chattahoochee River may be met with a requirement from the EPD that DeKalb County return treated wastewater back to the Chattahoochee to minimize interbasin transfers. Returning treated wastewater from the Snapfinger and Pole Bridge Creek WWTP would require construction of pumping stations and conveyance systems such as tunnels and force mains worth several hundred million dollars. As part of a study to evaluate methods for addressing interbasin transfers, the Department proposes to perform a feasibility study to evaluate the feasibility of constructing a water reuse plant on the South River.

### Project Description

The Department proposes to perform a feasibility study for constructing a water reuse plant on the South River. Flows of treated wastewater from the Snapfinger and Pole Bridge Creek WWTP would augment flows within the South River to provide the desired yield.

### Estimated Feasibility Study and Design Costs

Feasibility Study:	\$1,300,000.00
Design:	<u>\$3,900,000.00</u>
<b>Total:</b>	<b><u>\$5,200,000.00</u></b>

### Schedule

Feasibility Study: Start January 2008 and End December 2008.

Design: Start March 2009 and End June 2010.

Construction: To be determined following the Feasibility Study.

## **16: Water Meter Installation**

---

### **Background**

The Water Meter Installation Contract is an ongoing contract to service all new residential and commercial developments in the County. The Department receives an average of over 75 new water meter installation requests every week. Due to the increased demand in the recent past, an on-demand construction service contract was initiated to be able to service customers in a timely fashion with respect to new water meter installation, and at the same time, be able to catch up with current outstanding requests.

### **Project Description**

The Department proposes a water meter installation contract to fully address the outstanding water meter installation requests within a reasonable and satisfactory time frame.

### **Estimated Cost**

Construction:           \$9,170,000.00

### **Schedule**

Construction: Start December 2007 and End December 2011.

Note: This project will continue beyond the year 2011.

## **17: Water Service Line Renewal - Annual**

---

### **Background**

The Water Service Line Renewal is an annual contract awarded to a contractor to renew existing service lines, from the water main to the customer's water meter. The old water meters are also replaced in the process. DeKalb County has approximately 30 miles of old service lines that need replacement to prevent loss of water due to old and leaking pipelines. Existing galvanized pipelines tend to clog up and cause reduced cross section/lower pressure. Plastic pipes crystallize causing splits on the surface resulting in water leaks.

### **Project Description**

The Department proposes to fund Annual Contract services to perform water service line renewals County-wide.

### **Estimated Cost**

Construction: \$3,663,060.00

### **Schedule**

Construction: Start December 2007 and End December 2011.

Note: This project will continue beyond the year 2011.

## **18: Water Meter Replacement**

---

### **Background**

The Water Meter Replacement Program is administered through an Annual Contract. The Department utilizes annual contractors to perform water meter replacement. Adequate funding is required to maintain the level of service to DeKalb County customers.

### **Project Description**

The Department needs adequate funding to continue implementation of the Water Meter Replacement Program.

### **Estimated Cost**

Construction:           \$17,405,868.00

### **Schedule**

Construction: Start January 2008 and End January 2011.

Note: This project will continue beyond the year 2011.

## **19: Scott Candler Header Piping Emergency Repair**

---

### **Background**

In August 2006, the Scott Candler Water Treatment Plant staff examined the existing 24-inch (diameter), 36-inch (diameter), and 48-inch (diameter) spiral weld steel header piping in the High Service Pumping Station No. 1 and found numerous “pin-hole” leaks below the springline of the piping system. The deterioration of the piping appears to be corrosion due, in part, to galvanic activities over the past 30 years.

The subject water transmission main is one of two current piping system used to transport finished water to the storage tanks and distribution system from the plant. Therefore, restoring the 24-inch water transmission main was elevated to an emergency status.

Subsequently, the Department retained a consultant to conduct further investigations and provide recommendations for resolving the observed leaks in the water transmission main. Following the investigation, the consultant determined that the level of corrosion from the sustained galvanic activities had severely compromised the structural integrity of the piping system. As a result, the existing piping system had to be removed and replaced immediately.

### **Project Description**

The Department received bids and hired a construction company to replace the existing 24-inch (diameter), 36-inch (diameter), and 48-inch (diameter) spiral weld steel header piping system with cement-lined ductile piping and appurtenances. The work was performed on Time and Materials, Not-to-Exceed \$1,083,680.00.

### **Estimated Cost**

Construction:           \$1,083,680.00

### **Schedule**

Construction: Started January 2007 and Ended August 2007.

## **20: Scott Candler Electrical System Emergency Repair**

---

### **Background**

In July 2006, while performing a watermain repair at the Scott Candler Water Treatment Plant, another active and pressurized watermain was ruptured in the vicinity of the construction site. The water from the ruptured watermain flooded the construction site and undermined existing buried 5KVA electrical ductbank infrastructure providing power to the plant facility.

Following an evaluation, it was determined that the 5KVA electrical ductbank and cabling system required replacement immediately to ensure adequate electrical power source to continue operation of the plant.

### **Project Description**

In 2007, the Department removed and replaced a 5KVA electrical ductbank and cabling system to ensure adequate electrical power for the Scott Candler Water Treatment Plant facility. The work was performed by an Outside Contractor, under an Annual Electrical Service Contract.

### **Estimated Cost**

Construction:           \$239,375.00

### **Schedule**

Construction: Started December 2006 and Ended February 2007.

## **21: Vulnerability Assessment Study - Water**

---

### **Background**

According to The Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism, Preparedness and Response Act of 2002, all community water systems serving 3,300 persons or greater are required to conduct and certify a Vulnerability Assessment (VA). Potential terrorists' actions are of serious concern to water utilities. Attacks on water systems might be undertaken by a variety of people with different motivation and objectives.

### **Project Description**

The VA will review the exposure of DeKalb County drinking water system to terrorist attacks, or other activities intended to substantially disrupt the ability of the system. The VA will characterize the water system, identify and prioritize adverse consequences, assess the probability of future acts, and evaluate and analyze current risks. The results from this study will be incorporated into the County's emergency response plan as encouraged by the EPD.

### **Estimated Cost**

Assessment:               \$100,000.00.

### **Schedule**

Start January 2008 and End December 2008.



## 22: Water System Security Design and Installation

---

### Background

The water distribution system in DeKalb County requires various programs to prevent it from being compromised by any terrorist or accidental problems.

### Project Description

Details regarding the specifics of this project are confidential due to the nature of this project.

The project will occur over a multi-year period with adjustments being made annually about which areas to address as priority.

### Estimated Evaluation and Construction Costs

Security Consultant: \$100,000.00

Construction: \$11,502,500.00

**Total: \$11,602,500.00**

### Schedule

Start February 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **23: Annual Water Construction Contract**

---

### **Background**

The Department proposes to award an Annual Contract to inspect and replace existing old water main piping that are beyond their useful life.

A significant portion of the current water distribution piping system is over 50 years old. Adequate funding is required to investigate and replace the old water main piping in order to maintain the level of service in the County.

### **Project Description**

The Department proposes to award an Annual Water Construction Contract to identify and replace existing water main piping that are beyond their useful life.

### **Estimated Cost**

Construction:           \$16,926,141.00

### **Schedule**

Construction: Start December 2007 and End December 2011.

Note: This contract will continue beyond the year 2011.

## **24: Subdivisions and Water Main Extensions**

---

### **Background**

Due to the rapid growth from development within the County, existing water mains may need to be extended to accommodate such developments. Also, the Department has identified homes and subdivisions that are still using well water as their primary water supply. During weather changes and increased water demand, well water becomes unavailable and water mains have to be extended in order to provide adequate water supply to the customers. Also, if development is in the vicinity of the County line, developers may agree to purchase water from the adjacent county, temporarily. In such case(s), the Department may provide assistance to the developer to extend the water main, since the County would benefit from the work.

The funding is required to continue with the Subdivision and Water Main Extension Projects.

### **Project Description**

The Department needs adequate funding to continue the work related to the Subdivision and Water Main Extension Program.

### **Estimated Cost**

Construction:           \$613,284.00

### **Schedule**

Construction: Start January 2008 and End December 2011.

Note: This contract will continue beyond the year 2011.

## **25: Fireline Installation Contract**

---

### **Background**

The Department proposes a Fireline Installation Contract to complete water piping systems in the County, dedicated to fighting fire operation. The program will start in existing high density commercial and residential areas.

### **Project Description**

The Department proposes to enter into a contract for the installation of firelines in key areas of the County to support fire fighting operations.

### **Estimated Cost**

Construction:           \$580,982.00

### **Schedule**

Construction: Start December 2007 and End December 2011.

Note: This contract will continue beyond the year 2011.

## **26: Annual Engineering Contract**

---

### **Background**

The Department utilizes outside engineering consultants to perform services that the Department is unable to complete due to time and staffing constraints. The Department has managed and maintained annual engineering contracts over the past 10 years to ensure that the required engineering services are fully satisfied.

### **Project Description**

The Department proposes to enter into contracts with 3 or 4 engineering firms to provide various engineering services as required by the Department to satisfactorily maintain daily operations and service customers and stakeholders.

### **Estimated Cost**

Design:           \$13,000,000.00

### **Schedule**

Construction: Start November 2007 and End December 2011.

Note: This project will continue beyond the year 2011.

## **27: County Main Renewal, County Forces**

---

### **Background**

This is an ongoing replacement program for smaller water and sewer lines that is based on line age, material of construction, and repair frequency.

### **Project Description**

Department forces need funding to replace smaller sections and emergency sections of water mains. Larger projects are assigned to contractors. These lines are typically problematic because of age, material of construction, or size. Replacement provides better water service to the customers.

### **Estimated Cost**

Construction: \$15,883,116.00

### **Schedule**

Start January 2007 and End December 2011.

Note: This project will continue beyond the year 2011.

## 28: Replace Scott Blvd Water Main

---

### Background

The existing Scott Blvd. water main is located in the vicinity of North Druid Hills Road/Lawrenceville Hwy. and Lawrenceville Hwy/DeKalb Industrial Way.

The water main is 30 inches (diameter), steel material, and is estimated to be over 5 miles long. The water main serves an established residential and business community.

The Scott Blvd water main was installed in 1968. As a result of the main being nearly 40 years old, there have been numerous repairs and frequent maintenance, resulting from corrosion and increased structural stress. After conducting a condition assessment on the water main, the Department determined that 3 miles of the main need to undergo rehabilitation or be completely replaced.

### Project Description

The Department proposes to replace approximately 3 miles of the existing 30-inch Scott Blvd water main. The main will be replaced with a 36-inch ductile iron pipe which will provide increased in flow capacity. Removal and replacement is more cost effective than re-routing the main due to the highly populated area and cost associated with easement acquisitions.

This project will allow the water distribution system to operate more effectively, reduce cost associated with service repairs, and minimize potential disruption to traffic and the community in the long run.

### Estimated Design and Construction Costs

Design:	\$600,000.00
Construction Management:	<u>\$400,000.00</u>
Subtotal:	<b><u>\$1,000,000.00</u></b>
Construction:	\$3,000,000.00
<b>Total:</b>	<b><u>\$4,000,000.00</u></b>

### Schedule

Design: Start January 2008 and End May 2008.

Construction: Start August 2008 and End December 2010.

## 29: Replace Candler Road Water Main

---

### Background

The Candler Road water main is located on Candler Road between Whites Mill Road and Glenwood Road. The existing water main piping system is 12 inches (diameter), cast iron material, and estimated at about 1 mile in length. The water main provides water supply to residential and business customers in the vicinity of Candler Road.

The Candler Road Water Main was installed in 1948. As a result of the main being nearly 60 years old, there have been numerous documented breaks, leaks, and repairs, requiring frequent maintenance activities. After conducting a condition assessment on the piping system, the Department determined that the entire water main must undergo rehabilitation or be completely replaced.

### Project Description

The Department proposes to replace approximately 1 mile of the existing Candler Road water main. After reviewing rehabilitation options, removal and replacement of the water main was determined as having several potential advantages. The existing water main will be replaced with a 12-inch ductile iron pipe, which will accommodate higher stress from external service loads and internal water pressure. Removal and replacement is more cost effective than rerouting the water main due to the highly populated area and cost associated with easement acquisitions.

This project will allow the water distribution system to operate more effectively, reduce cost associated with service repairs, and minimize potential disruption to traffic and the community in the long run.

### Estimated Design and Construction Costs

Design:	\$300,000.00
Construction Management:	<u>\$200,000.00</u>
Subtotal:	<u><b>\$500,000.00</b></u>
Construction:	\$3,500,000.00
<b>Total:</b>	<u><b>\$4,000,000.00</b></u>

### Schedule

Design: Start November 2007 and End December 2007.

Construction: Start March 2008 and End May 2009.



### 30: Replace Glenwood 36" – 42" PCP Water Main

---

#### Background

The existing Glenwood Road 36-inch (diameter) water main originates at the intersection of Glenwood Road and McAfee Road and transitions to a 42-inch (diameter) water main at North Clarendon Avenue. The main is prestressed concrete pipe (PCP) material and is estimated at approximately 4 miles long. The water main serves an established residential and business community.

The Glenwood Road water main was installed in 1970. As a result of the piping system being over 35 years old and having inherent structural defects, there have been numerous documented breaks, leaks, and repairs requiring frequent maintenance work. After conducting a condition assessment on the water main, the Department determined that the entire PCP piping system must undergo rehabilitation or be completely replaced.

#### Project Description

The Department proposes to replace or rehabilitate approximately 4 miles of existing PCP piping system along Glenwood Road. The Department is currently reviewing the following two options:

1. Rehabilitation method by relining the main using high density polyethylene pipe as a tight-fit liner.
2. Remove and replace the entire main. The main will be replaced with a 36-inch ductile iron water main.

#### Estimated Design and Construction Costs

Design:	\$300,000.00
Construction Management:	<u>\$200,000.00</u>
Subtotal:	<u><b>\$500,000.00</b></u>
Construction:	\$4,500,000.00
<b>Total:</b>	<u><b>\$5,000,000.00</b></u>

#### Schedule

Design: Start January 2008 and End July 2008.

Construction: Start October 2008 and End December 2009.

## **31: New Chattahoochee River Raw Water Intake and Pumping Station Facility**

---

### **Background**

The Department is in the process of replacing its existing 150 MGD raw water pumping station on the Chattahoochee River, near Holcomb Bridge Road with a new 200 MGD pumping station. The existing pumping station was constructed in 1942 and the equipment is aging and almost beyond repair. The new 200 MGD Chattahoochee Raw Water Intake and Pumping Station facility is needed to withdraw and transport raw water to the 1 billion gallon reservoirs located at the Scott Candler Water Treatment Plant.

The existing raw water pumping station and appurtenances will be decommissioned after the new facility goes on-line. The existing raw water transmission system is almost beyond its useful life and requires upgrade to accommodate the growing population in DeKalb County.

### **Project Description**

The Department is in the process of replacing the existing pumping station with a new upgraded facility with a firm pumping capacity of 200 MGD; located immediately downstream of the existing facility. A new intake structure will be installed mid-channel in the Chattahoochee River. The existing electrical sub-station will be replaced with a new facility to satisfy current electrical codes.

### **Estimated Cost**

Construction: \$33,000,000.00

### **Schedule**

Design: Already completed.

Construction: Start January 2007 and End May 2009.

## **32: Existing Chattahoochee River Raw Water Intake and Pumping Station Demolition**

---

### **Background**

The Department proposes to demolish the existing 150 MGD raw water pumping station on the Chattahoochee River following completion of the new 200 MGD pumping station. The original pumping station was commissioned in 1942, and the equipment is aging and almost beyond repair. The new 200 MGD Chattahoochee Raw Water Intake and Pumping Station facility is needed to withdraw and transport raw water to the reservoirs located at the Scott Candler Water Treatment Plant.

The existing raw water transmission system is almost beyond its useful life and requires upgrade to accommodate the growing population in DeKalb County.

### **Project Description**

Remove existing pumping station and riverbank intake structure after the new facility is operational.

### **Estimated Design and Construction Costs**

Construction: \$4,000,000.00

### **Schedule**

Construction: Start May 2009 and End July 2010.

### 33: Raw Water Transmission Line

---

#### Background

Following completion, the new 200 MGD Chattahoochee Raw Water Intake and Pumping Station facility will transport raw water to the 1 billion gallon reservoirs, located at the Scott Candler Water Treatment Plant.

The existing raw water transmission system is almost beyond its useful life and requires upgrade to accommodate the growing population in DeKalb County.

#### Project Description

The Department proposes to construct a new raw water transmission line from the new pumping station to the Scott Candler Water Treatment Plant.

#### Estimated Design and Construction Costs

Design:	\$1,000,000.00
Construction and Construction Management:	<u>\$19,000,000.00</u>
<b>Total:</b>	<b><u>\$20,000,000.00</u></b>

#### Schedule

Construction: Start February 2008 and End May 2009.

## 34: Additional Clearwells and Pumping Stations

---

### Background

With the completion of the new Scott Candler Water Treatment Plant several construction programs are needed to finalize the plant. These items could not be undertaken until the existing plant is decommissioned.

### Project Description

Phase II projects include the addition of clearwells to increase regulatory compliance and add redundancy to the existing clearwell, pump stations to move the water between the clearwells and storage tanks, improvements to the existing pump stations, addition of onsite chemical generation for efficiency and cost savings from technological advances, modification of existing clearwell for regulatory compliance, demolition of some existing structures and some smaller efficiency and redundancy improvements.

Initial Design Development Report was completed in 2005 and will be updated in 2007.

### Estimated Design and Construction Costs

Design:	\$700,000.00
Construction Management:	<u>\$1,000,000.00</u>
Subtotal:	<u><b>\$1,700,000.00</b></u>
Construction:	\$34,000,000.00
<b>Total:</b>	<u><b>\$35,700,000.00</b></u>

### Schedule

Design: Start December 2007 and End August 2008.

Construction: Start November 2008 and End December 2009.

### 35: Replace Steel Drive Booster Station

---

#### Background

The Steel Drive booster pump station consists of 2 In-line vertical pumps mounted horizontally. The pumps used are not designed to be used horizontally. The pumps have to be replaced on a regular basis. Also, the station is located underground next to highway 29. The station location is very dangerous to access. Because it is located underground, additional hazards exist from vehicles exhaust, flooding, and falls. The station continues to be challenging to the Department. All Tucker booster stations are critical, especially during the high demands of the summer. It takes almost all the stations to maintain pressure during peak demand. The additional hazards create longer repair times for even the simple jobs.

#### Project Description

The Department proposes to perform an engineering study to find a new location for the booster pump station and build a new above ground station with 2 or 3 horizontal split case pumps.

#### Estimated Design and Construction Costs

Design:	\$150,000.00
Construction:	<u>\$1,150,000.00</u>
<b>Total:</b>	<b><u>\$1,300,000.00</u></b>

#### Schedule

Design: Start April 2009 and End October 2009.  
Construction: Start February 2010 and End December 2010.

### 36: Replace Henderson Booster Station

---

#### Background

The Henderson booster pump station consists of 3 In-line vertical pumps mounted horizontally. The pumps are not designed to be used horizontally. Thus, the pumps have to be replaced on a regular basis. Also, the station is located underground next to a road. Because it is located underground, additional hazards exist from vehicles exhaust, flooding, and falls. The station continues to be challenging to the Department. All Tucker booster stations are critical, especially during the high demands of the summer. It takes almost all the stations to maintain pressure during peak demand. The additional hazards create longer repair times for even the simple jobs.

#### Project Description:

The Department proposes to demolish the existing station and build a new above ground station with 3 to 4 horizontal split case pumps. This site provides enough room to build on top of the existing station.

#### Estimated Design and Construction Costs

Design: \$200,000.00

Construction: \$1,800,000.00

**Total: \$2,000,000.00**

#### Schedule

Design: Start April 2009 and End October 2009.

Construction: Start February 2010 and End December 2010.

## 37: Upgrade Water Pumping Stations

---

### Background

Various water pumping stations need to be upgraded. This project will allow the Department to have funding available for upgrade to electrical, mechanical, and structural systems.

### Project Description

The Department proposes to evaluate and determine upgrades required to Columbia Drive, Whites Mill, Wesley Chapel, Panola, and Lithonia pumping stations.

### Estimated Design and Construction Costs

Design: \$100,000.00

Construction: \$500,000.00

**Total: \$600,000.00**

### Schedule

Design: Start April 2008 and End October 2008.

Construction: Start February 2009 and End December 2009.



## **38: Install Transfer Pumps**

---

### **Background**

The new Scott Candler Water Treatment Plant has a rated capacity of 150 MGD with a maximum of 180 MGD. The old plant had a maximum production of 128 MGD. Finished water must process through the clear well transfer pumps. The combined total of all transfer pumps is 160 MGD.

### **Project Description**

The new Scott Candler Water Treatment Plant needs additional transfer pumps and controllers for the existing clear well.

### **Estimated Cost**

Construction:           \$500,000.00

### **Schedule**

Start May 2008 and End December 2008.

### **39: Rehab/Replace Gas Station Pumps**

---

#### **Background**

The gasoline tank and pump at the maintenance office of the Scott Candler Water Treatment Plant has not been operational for use for many years. In a recent tabletop exercise conducted by the Department of Energy and Local and State Emergency Response Agencies, this gasoline distribution facility was identified as a weakness in the County's ability to respond to emergencies and natural disasters.

The Department is proposing to perform a complete rehabilitation of this facility along with the upgrade of the pump system in order to comply with the current County standard fuel key system. This facility will be available for use by all County departments (Police, Fire Rescue, etc.).

#### **Project Description**

The Department proposes to install new pump and metering equipment to meet County standards and to test the existing tank and containment system and replace/upgrade as needed.

#### **Estimated Cost**

Construction:           \$250,000.00

#### **Schedule**

Start 2008 and End December 2008.

## **40: Lawn Maintenance Equipment**

---

### **Background**

The construction of the new Scott Candler Water Treatment Plant has tripled the amount of lawn care needed. Standard mowers are unable to keep up with the maintenance needs. Special large area cutting mowers are needed to maintain the lawns.

### **Project Description**

Purchase two large area mowers and one zero turning mower.

### **Estimated Cost**

Construction:           \$25,000.00

### **Schedule**

Start May 2008 and End July 2008.

## **41: Water and Wastewater Master Plan**

---

### **Background**

The Department of Watershed Management is responsible for ensuring adequate supplies of clean drinking water and the collection, transmission, treatment, and disposal of wastewater reliably and consistently in accordance with the County's National Pollutant Discharge Elimination System (NPDES) Permits. This responsibility involves construction, maintenance, repair, rehabilitation, and replacement of water and wastewater infrastructure throughout the County. Capital improvement projects are identified periodically based on the condition of existing infrastructure and ongoing and projected population growth and development. In order to assure adequacy of needed infrastructure, the Department needs a comprehensive master plan to guide the Department's operations for a reasonable period of time.

### **Project Description**

The Department proposes to develop a 25-year water and wastewater master plan during the time period of January 2008 through December 2009. The master planning process will include the following tasks:

- Making population and flow projections for the next 25 years.
- Evaluating development trends.
- Assessing development potential for various regions/areas of the County.
- Assessing the water distribution and wastewater collection infrastructure needs for various regions/areas of the County.
- Assessing the maintenance/repair/rehabilitation/replacement needs of various water and wastewater infrastructure.
- Estimating the CIPs construction and O&M costs.
- Preparing a Water and Wastewater Master Plan document.

The Water and Wastewater Master plan will contain the following information:

- Description of the master planning process.
- List and maps of CIPs and estimated design and construction costs and schedules.
- Estimated O&M annual cost estimates.
- Maintenance/repair/rehabilitation/replacement cost estimates and schedule.
- Record of projected activities and estimated costs for the Department.

The Water and Wastewater Master Plan will be reviewed and updated at 5-year intervals.

### **Estimated Cost for Developing a Water and Wastewater Master Plan**

Master Plan	\$3,000,000.00
-------------	----------------

### **Schedule**

Feasibility Study: Start January 2008 and End December 2009.

## 42: Snapfinger - Ultraviolet Disinfection

---

### Background

The Snapfinger Creek Wastewater Treatment Plant is located on Flakes Mill Road on the South River. The original plant was constructed in the early 1960's and expanded in 4 separate occasions over the subsequent 20 years. The plant has an EPD permitted capacity of 36 MGD. The average annual daily average flow in 2006 was approximately 28.5 MGD.

The plant currently uses gaseous chlorine to disinfect the treated wastewater before it is discharged into the South River. Chlorine gas is delivered to the plant in one ton cylinders and fed into the plant to provide the necessary disinfection. While the system is designed to be safe, there is always the inherent risk of a mechanical malfunction that could result in the release of dangerous chlorine gas. Chlorine gas is a dangerous airborne toxin that in small amounts can cause blindness, pneumonia, respiratory failure, and death.

### Project Description

The Department proposes to replace the chlorine gas system with an ultraviolet disinfection system. The ultraviolet disinfection system will replace the existing gaseous chlorine disinfection system and, therefore, eliminate the potential of a release of the dangerous chemical.

### Estimated Design and Construction Costs

Design:	\$175,000.00
Construction:	<u>\$3,000,000.00</u>
<b>Total:</b>	<b><u>\$3,175,000.00</u></b>

### Schedule

Design: Start January 2008 and End June 2008.  
Construction: Start August 2008 and End March 2009.

## 43: Pole Bridge - Ultraviolet Disinfection

---

### Background

The original Pole Bridge Creek Wastewater Treatment Plant was constructed in 1973 with a capacity of 3 MGD. In 1986 a temporary interim expansion was completed which increased the plant capacity to 5 MGD. In August of 1990, the current plant expansion was completed with a capacity of 20 MGD. An expansion of the aerobic digesters was constructed in 2000 and completed in June, 2002. This included the current polymer building along with a 4.2 million gallon tank, 3 Rotary Drum Thickeners (RDT), with the capability of producing 6% sludge. Pole Bridge average flow is approximately 13.0 MGD.

The Pole Bridge Wastewater Treatment Plant currently uses chlorine gas for disinfection of treated wastewater before it is discharged into the south river. Pole Bridge is located in an area that is being developed for upscale residential properties; therefore, the use of chlorine gas for disinfection is a concern and the chlorine gas cylinders have been identified as a potential risk hazard to public safety and plant staff.

### Project Description

The main advantage for converting to ultraviolet disinfection system is the reduction of risk associated with chlorine gas.

### Estimated Design and Construction Costs

Design:	\$175,000.00
Construction:	<u>\$3,000,000.00</u>
<b>Total:</b>	<b><u>\$3,175,000.00</u></b>

### Schedule

Design: Start January 2008 and End June 2008.  
Construction: Start August 2008 and End March 2009.

## 44: Snapfinger Solids Handling Upgrade

---

### Background

The Snapfinger Creek Wastewater Treatment Plant Biosolids Handling Facility includes existing “plate-and-frame” dewatering equipment and conveyor belt system to transport the processed biosolids to containers for transport to a certified landfill. The process system has been in service for over 30 years and, consequently, requires frequent maintenance to remain in operation.

The proposed process biosolids handling system will consist of hydraulic pumps, piping, and dewatering presses to automatically control the capacity output from the plant for disposal at the landfill. In addition, following installation, the new processed biosolids handling equipment and system will be incorporated into the planned expansion associated with the Snapfinger Creek Wastewater Treatment Plant.

### Project Description

The Department proposes to design hydraulic pumps, piping, dewatering press, electrical, instrumentation, and controls systems, as required to upgrade the existing Snapfinger Creek Biosolids Handling Facility, and provide the necessary redundancy to satisfy current and future operational peak demands. Following completion of the new Biosolids Handling Facility, the old one will be demolished.

### Estimated Design and Construction Costs

Design:	\$300,000.00
Construction Management:	<u>\$200,000.00</u>
Subtotal:	<u><b>\$500,000.00</b></u>
Construction:	\$4,500,000.00
<b>Total:</b>	<u><b>\$5,000,000.00</b></u>

### Schedule

Design: Start March 2006 and End September 2007.  
Construction: Start January 2008 and End March 2009.

## 45: Influent Lift Station Upgrade Project – Snapfinger

---

### Background

The Snapfinger Creek Wastewater Treatment Plant is located on Flakes Mill Road on the South River. The original plant was constructed in the early 1960's and expanded in 4 separate occasions over the subsequent 20 years. The plant has an EPD permitted capacity of 36 MGD. The average annual daily average flow in 2006 was approximately 28.5 MGD.

The plant's Influent Lift Station experienced a major mechanical failure on January 29, 2006 which resulted in a 10 million gallon spill of raw wastewater into the waters of the state. Subsequently the DeKalb County entered into a Consent Order with the EPD, which included improvements and upgrade of the Influent Lift Station.

### Project Description

The Department has replaced the antiquated Variable Speed Drives, Power cables, and bar screens, as well as removal of all electrical disconnects in the dry well. Additionally the Department has installed actuators on all valves in the Station and installed Emergency Stop switches as well as a real-time vibration detection system.

### Estimated Design and Construction Costs

Design:	\$500,000.00
Construction:	<u>\$1,500,000.00</u>
<b>Total:</b>	<b><u>\$1,500,000.00</u></b>

### Schedule

Design: Started June 2006 and Ended September 2006.

Construction: Started January 2007 and End December 2007.



## **46: Scum System Upgrade - Snapfinger**

---

### **Background**

The Snapfinger Creek Wastewater Treatment Plant is located on Flakes Mill Road on the South River. The original plant was constructed in the early 1960's and expanded in 4 separate occasions over the subsequent 20 years. The plant has an EPD permitted capacity of 36 MGD. The average annual daily average flow in 2006 was approximately 28.5 MGD.

Currently the scum and grease removal system for the plant is inoperative, and the grease accumulator pits must be cleaned by hand. This is an awkward and dangerous task because the scum pits were not designed to be human friendly. This has resulted in one employee being injured.

### **Project Description**

The Department desires to install two Vaughn chopper pumps for scum removal in the Snapfinger Plant. A Vaughn chopper pump will be installed on scum accumulator pits on the 10 Side and 9 Side of the plant allowing the accumulated grease and scum to be chopped and re-circulated until it can be pumped to the plant thickeners. The pump will be on a timer and this should automate the system and eliminate the need for hand cleaning. The new system will reduce grease running through the system and give the plant a better effluent.

### **Estimated Cost**

Construction: \$80,000.00

### **Schedule**

Construction: Start October 2007 and End June 2008.

## **47: Vulnerability Assessment Study – Sewer**

---

### **Background**

The Snapfinger Creek Wastewater Treatment Plant is located on Flakes Mill Road on the South River. The original plant was constructed in the early 1960's and expanded in 4 separate occasions over the subsequent 20 years. The plant has an EPD permitted capacity of 36 MGD. In 2002 the Public Health Security and Bioterrorism Preparedness and Response Act was signed into law. This Act requires water utilities serving over 100,000 people to complete and submit a vulnerability assessment (VA).

### **Project**

The vulnerability assessment will review the exposure of DeKalb County wastewater system to terrorist attacks, or other activities intended to substantially disrupt the ability of the system. The VA will characterize the wastewater system, identify and prioritize adverse consequences, assess the probability of future acts, and evaluate and analyze current risks. The results of this study will be incorporated into the County's emergency response plan as encouraged by the EPD.

### **Estimated Project Cost**

Assessment:               \$200,000.00

### **Schedule**

Start January 2008 and End December 2008.

## 48: Wastewater Systems Security Design and Installation

---

### Background

DeKalb County owns and operates 2 wastewater treatment plants with an estimated 2,500 miles of sewers, and several pump stations. The Department proposes to perform a security assessment of its wastewater treatment plants.

### Project Description

The Department proposes to perform a comprehensive security assessment on its wastewater treatment plants. The assessment will evaluate existing conditions, planned projects, and future considerations, both physical and operational. All threats, specific acts of terrorism, and security enhancements will be included in the analysis; along with recommendations to strengthen the safety and security of each site.

### Estimated Costs

Analysis and Study:	\$500,000.00
Implementation:	<u>\$1,000,000.00</u>
<b>Total:</b>	<b><u>\$1,500,000.00</u></b>

### Schedule

Security Assessment: Start January 2008 and End April 2008.  
Implementation: Start June 2008 and End December 2008.

## **49: Manhole Raising Contract**

---

### **Background**

The Manhole Raising Contract is associated with an annual contract to raise existing manholes and water valve chambers to grade to accommodate roadway improvements by the GDOT, Department of Public Works, and private contractors.

The Manhole Raising Contract is required to accommodate the high demand for roadway improvements in the County.

### **Project Description**

The Department proposes additional funding to continue implementing the Manhole Raising Program within DeKalb County. The work is directly related to County roadway improvements.

### **Estimated Cost**

Construction:           \$12,820,710.00

### **Schedule**

Construction: Start November 2007 and End December 2011.

Note: This work will continue beyond the year 2011.

## 50: Hydraulic Pump Purchase

---

### Background

The Department requires a submersible hydraulic pump system to respond to emergencies that require the suction lift of greater than 30 feet. The current Department inventory only includes centrifugal above ground pumps. In the past the Department had to rely on private vendors to perform such services during emergencies.

### Project Description

The Department proposes to purchase a hydraulic pump and a hydraulic power system for use in the Plant or lift station wet wells.

Failure to purchase this system will result in slow response to emergencies, which in turn may potentially result in spills of raw wastewater into State waters.

### Estimated Cost

Hydraulic Pump	\$50,000.00
----------------	-------------

### Schedule

Start June 2007 and End November 2007.

## 51: Lift Station Radio Upgrade

---

### Background

The Department must upgrade the current radio system because the County Communication Department is in the process of upgrading the Motorola Communication System from analog to digital. The collection system's existing communication systems will not function once the County has completed digital upgrade.

### Project Description

The Department proposes to purchase a new digital radio communication system and upgrade all lift stations, repeater sties, and the master radio system located at the plant control room.

Failure to purchase this system will result in loss of communication with all lift stations which in turn may potentially result in spills of raw wastewater into State waters.

### Estimated Cost

Lift Station Radio Upgrade	\$500,000.00
----------------------------	--------------

### Schedule

Start June 2007 and End January 2008.

## 52: Water and Sewer Relocation Adjustment for Roadway Projects

---

### Background

The DeKalb County Department of Public Works-Transportation Division, in partnership with the Georgia Department of Transportation (GDOT) plan and implement roadway projects to improve traffic conditions for DeKalb County's residential and business communities. Planning among the stakeholders includes approximately 100 projects to be completed over the next 4 years. An essential aspect of the work related to each project includes existing water and sewer infrastructure modifications located within the proposed roadway improvements.

If sufficient funding is not provided in a timely manner, the schedule for the roadway improvement projects, requiring water and sewer relocation/adjustment work, will be delayed.

### Project Description

In an effort to satisfy scheduled completion requirements for nearly 100 roadway related projects, the Department, in partnership with the DeKalb County Department of Public Works-Transportation Division and GDOT, must perform existing water and sewer utility relocations as necessary to accommodate the work.

### Estimated Design and Construction Costs

Design:	\$7,000,000.00
Construction Management:	<u>\$1,500,000.00</u>
Subtotal:	<u><b>\$8,500,000.00</b></u>
Construction:	\$33,628,000.00
<b>Total:</b>	<u><b>\$42,128,000.00</b></u>

### Schedule

Design: Start November 2007 and End December 2011.

Construction: Start December 2007 and End December 2011.

Note: This project will continue beyond the year 2011.

## **53: Pipe Bursting**

---

### **Background**

The DeKalb County Wastewater Collection System is aging and the materials used in its construction have lost their structural integrity, due to corrosion and natural degradation from use. This gradual breakdown allows greater infiltration, especially during periods of heavy rainfall, and under high groundwater conditions. Thus, the surcharged sewer flow accelerates deterioration of the system and allows overflows and spills.

### **Project Description**

The goal of pipe bursting is to be in compliance with all regulatory requirements and mandates placed upon the Department by Federal and State agencies. The EPD has issued consent orders which mandate that repairs to the collection system be made which will eliminate sanitary sewer overflows (SSOs), spills, and Inflow/Infiltration.

The Department proposes to maintain adequate funding for pipe bursting projects mandated by the EPD and for additional work needed to repair/rehabilitate aging sewers.

### **Estimated Cost**

Construction:           \$26,205,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.



## **54: Manhole Rehabilitation**

---

### **Background**

Manhole rehabilitation is necessary to correct various manhole defects which ultimately reduce inflow/infiltration (I/I), sanitary sewer overflows (SSO), and spills. The ultimate goal of manhole rehabilitation is to be in compliance with all regulatory requirements and mandates placed upon the Department by Federal and State agencies. The EPD has issued consent orders which mandate that repairs to the collection system be made which will eliminate SSOs, spills, and I/I.

### **Project Description**

The Department proposes to continue funding the manhole rehabilitation program at adequate levels to reduce I/I into the sewer system and to extend the life span of manholes.

### **Estimated Cost**

Construction:           \$16,923,000.00

### **Schedule**

Start in January 2008 and end in December 2011.

Note: This project will continue beyond the year 2011.

## 55: Pipecams Purchase

---

### **Background**

Pipe cameras (pipecam) are used as a tool to inspect manholes and up to 20 feet inside the sewer lines. Pipecams are everyday use tools for the Department crew workers. Due to the corrosive environment that the pipecams are used in, it is imperative that they be replaced every 3 years. Pipecams are a necessary tool and the crew workers can not accomplish their tasks without them.

### **Project Description**

The Department proposes to maintain adequate funding for the purchase and replacement of pipecams.

### **Estimated Cost**

Pipecams:                   \$248,000.00

### **Schedule**

Start in January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## 56: Smoke Testing

---

### **Background**

Smoke Testing is intended to detect specific inflow points such as storm sewer cross-connections and point source inflow leaks in drainage paths or ponding areas. Manhole rehabilitation is necessary to correct various manhole defects which ultimately reduce inflow/infiltration (I/I), sanitary sewer overflows (SSO), and spills. The ultimate goal of manhole rehabilitation is to be in compliance with all regulatory requirements and mandates placed upon the Department by Federal and State agencies. The EPD has issued consent orders which mandate that repairs to the collection system be made which will eliminate SSOs, spills, and I/I.

### **Project Description**

The Department proposes to maintain adequate funding to perform smoke testing to identify sources of I/I and to repair defects allowing I/I into the sewer system.

### **Estimated Cost**

Smoke Testing:       \$4,350,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **57: Service Lateral Maintenance and Rehabilitation**

---

### **Background**

Service laterals connect buildings wastewater drainage system (plumbing) to the County owned sewer main. The sewer main may begin immediately at the outside of the building or some distance away from the building. Lateral rehabilitation is necessary to correct various sewer problems which ultimately will reduce inflow/infiltration (I/I), sanitary sewer overflows (SSOs), and spills.

### **Project Description**

The Department proposes to maintain adequate funding for service lateral maintenance and rehabilitation to reduce I/I into the sewer system and for additional work needed to repair and rehabilitate aging sewers.

### **Estimated Cost**

Construction:           \$9,282,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **58: Closed Circuit TV (CCTV) Inspection**

---

### **Background**

DeKalb County sewers continue to deteriorate due to age and other environmental conditions. Without proper and timely inspection of the sewer system, sewers may deteriorate and collapse causing sanitary sewer overflows (SSOs) and spills into the environment. Internal inspection using CCTV is conducted to verify the existence and precise locations of defects found by other inspection methods and to analyze the nature and extent of the problem. The Department uses CCTV to identify defects caused by structural problems, infiltration, lateral connections, the conditions of the sewer, and operational problems caused by roots, grease, and debris.

### **Project Description**

The Department proposes to initiate a comprehensive sewer system evaluation survey (SSES) program in 2008 as part of the capacity, management, operation, and maintenance (CMOM) program mandated by the EPA and EPD. The SSES Program will help the Department with identifying defects allowing I/I into the system and in establishing a comprehensive sewer rehabilitation program. In addition, the SSES Program will help the Department with its asset management program, master planning efforts and business planning efforts.

### **Estimated Cost**

CCTV Inspection:     \$49,910,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **59: Flow Monitoring**

---

### **Background**

Flow monitoring is used to determine the capacity of the sewer lines. By using flow monitors, the Department can identify the sewer lines that need to be upgraded in order to provide services to new development. The flow monitoring data will be used in developing a model of the sewer system. The Department also uses flow monitoring to identify defects that allow I/I to enter the system.

### **Project Description**

The Department proposes to maintain adequate funding for flow monitoring to identify sources of I/I and to develop the hydraulic model of the sewer system as part of the CMOM Program.

### **Estimated Cost**

Flow Monitoring:     \$9,283,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **60: Relining**

---

### **Background**

The DeKalb County Wastewater Collection System is aging and the materials used in its construction have lost their structural integrity due to corrosion and natural degradation from use. This gradual breakdown allows greater infiltration, especially during periods of heavy rainfall, and under high groundwater conditions. Thus, the surcharged sewer flow accelerates deterioration of the system and allows overflow and spills into the environment.

### **Project Description**

The goal of relining is to be in compliance with all regulatory requirements and mandates placed upon the Department by Federal and State agencies. The EPD has issued consent orders which mandate that repairs to the collection system be made which will eliminate sanitary sewer overflows (SSOs), spills, and I/I.

The Department proposes to maintain adequate funding for relining projects mandated by the EPD and for additional work needed to repair and rehabilitate aging sewers.

### **Estimated Cost**

Construction:           \$34,487,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **61: Vegetation Clearing**

---

### **Background**

This project is for purposes of keeping the sanitary sewer easements clear and accessible. This project is very critical since the maintenance crews will need immediate access in case of sanitary sewer overflows (SSO) or spills. In case of an emergency, all easements need to have been cleared. This will cut down the response time to an SSO or spill and decrease the volume of the SSO or spill. Trees that have grown on top of the sewer lines need to be removed. If they are not removed, the tree roots can penetrate the sewer line and become a source inflow/infiltration (I/I). Tree roots can also weaken the sewer line structurally.

### **Project Description**

The Department proposes to maintain adequate funding for sanitary sewer easement clearing. This project is mandated under the EPA and EPD CMOM Program.

### **Estimated Cost**

Vegetation Clearing:                \$11,000,000.00

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.



## 62: Water and Wastewater Modeling Assistance

---

### Background

The Department is currently under a 5-year contract with an engineering firm to inventory and map its water distribution and sewer collection system. Following the inventory and mapping of specific basins within the County the Department is inputting the gathered data into a software to model the systems. This project is part of the EPA and EPD mandated CMOM program.

### Project Description

The modeling of the water and wastewater system will allow the Department to predict the system's behavior under different scenarios. Once the system is inventoried and mapped, the data will be entered into the modeling software and with the use of flow monitoring and rain gauge data the model will be calibrated. The model will allow the Department to prevent SSOs and spills by knowing ahead of time where inflow/infiltration, SSOs, and spills may occur. The model will also allow the Department to develop a capacity assurance program as mandated by the EPA and EPD CMOM Program.

### Estimated Cost

Modeling Cost: \$1,028,200.00

### Schedule

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **63: Lift Station Upgrade/Rehab.**

---

### **Background**

The original wastewater collection system in DeKalb County is over 60 years old in some areas. Some lift stations have become ineffective and difficult to operate and maintain. In addition to the projected increases in wastewater flows, electrical and mechanical systems at the stations are aging and the stations are not operating at optimum efficiency.

### **Project Description**

The Department proposes to institute an evaluation and upgrade/rehabilitation program to ensure compliance with state and federal regulations as well as ensuring the health and safety of DeKalb County citizens. Part of this program will replace below and above ground stations with submersible pumping systems with state-of-the-art controls and communication equipment.

### **Estimated Design and Construction Costs**

Design:	\$6,000,000.00
Construction:	<u>\$27,487,000.00</u>

<b>Total:</b>	<b><u>\$33,487,000.00</u></b>
---------------	-------------------------------

### **Schedule**

Design: Start May 2008 and End September 2011.

Construction: Start September 2008 and End December 2011.

## **64: Sewer and Manhole Inspection Study**

---

### **Background**

The Department is under contract with an engineering firm to inventory, map, and assess the condition of manholes throughout the County. This project is part of an EPA/EPD mandated CMOM program. This project will also help the Department with its asset management program and the development of a capacity assurance program.

### **Project Description**

This project is needed to study the infrastructure of the wastewater collection system. It will provide a comprehensive map of the sewer system including GIS information and allow the Department to prioritize the rehabilitation of these infrastructures to eliminate future sanitary sewer overflows and spills.

### **Estimated Cost**

Sewer and Manhole Inspection Study:       \$19,500,000.00

### **Schedule**

Start January 2008 and End December 2011.

## 65: City of Atlanta RM Clayton/System – Credit

---

### Background

DeKalb County and the City of Atlanta have an interjurisdictional agreement whereby DeKalb County owns 48 percent (50 MGD) of the treatment capacity of the RM Clayton Wastewater Treatment Plant. Consequently, DeKalb County is required to pay 48 percent of all capital improvement projects costs at RM Clayton.

In 1997, DeKalb County participated with the City of Atlanta in its Phosphorus Reduction Program. At the conclusion of the program in 2004, the County realized a credit of approximately \$10 million dollars.

DeKalb County and the City of Atlanta are currently in discussions regarding the present and future projects that will utilize these funds.

**Estimated Credit**                      \$10,000,000.00

### Schedule

Schedule of refund/utilization to be determined following discussions with the City of Atlanta.

## 66: City of Atlanta RM Clayton/System Upgrades

---

### Background

In 1968, DeKalb County entered into an agreement with the City of Atlanta to participate in the financing, construction, and ongoing capital improvement of the RM Clayton Plant. Under that agreement, DeKalb County owns 48 percent (50 MGD) of the RM Clayton treatment capacity. Consequently, DeKalb County is required to pay 50 percent of all capital improvement projects costs at RM Clayton.

### Project Description

The City of Atlanta anticipates that DeKalb County will be making capital contributions to various projects described as follows:

- Projects which include the investigation, replacement, and/or upgrade of a Water Reclamation Center or Pump Station that is part of the Metropolitan Sewer System.
- Projects which replace, upgrade, and/or service multiple components of the City's wastewater system, and that include a component of the Metropolitan Sewer System. This category includes projects which create information, tools, or facilities that facilitate the operation of the City's wastewater system, including a portion of the Metropolitan Sewer System (e.g. maintenance management systems, master plans, system-wide laboratories, etc.).
- Projects which include the investigation, replacement, and/or upgrade of the City's wastewater collection or transmission system and that include a component of the Metropolitan Sewer System.

### Estimated Cost

RM Clayton/System Upgrades	\$25,000,000.00
----------------------------	-----------------

### Schedule

Start June 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## 67, 68, and 69: Snapfinger Wastewater Treatment Plant Expansion

---

### Background

The Snapfinger Creek Wastewater Treatment Plant is located at 4121 Flakes Mill Road, Decatur. The original plant was constructed in the early 1960's and expanded in four (4) separate occasions over the subsequent twenty (20) years. The plant has an EPD permitted capacity of thirty-six (36) million gallons per day (MGD). The average annual daily average flow in 2006 was approximately 28.5 MGD. Based on available population projection data from the Atlanta Regional Commission and the U.S. Census Bureau, the annual average daily wastewater flows from the Snapfinger service area are projected to be approximately 29.6 MGD in 2010, 32.2 MGD in 2015, 34.7 MGD in 2020, and 39.8 MGD in 2030.

In addition to the projected increases in wastewater flows, the mechanical systems at the plant are aging; the plant is not operating at optimum efficiency; and the limits of pollutant concentrations in the effluent will probably be lowered in the foreseeable future.

### Project Description

The Department proposes to expand the treatment capacity at the Snapfinger Wastewater Treatment Plant from the current maximum permitted treatment capacity of 36 MGD to a new maximum capacity of approximately 70 MGD. The added treatment capacity at Snapfinger will accommodate projected future flows for the next 30 to 50 years. The expansion will be done utilizing new state-of-the-art technology that will realize greater levels of efficiency, assure compliance with current and future effluent limits, and realize lower operating and maintenance costs.

### Estimated Design and Construction Costs

Design:	\$18,000,000.00
Construction Management:	<u>\$6,000,000.00</u>
Subtotal:	<u><b>\$24,000,000.00</b></u>
Construction:	\$300,000,000.00
<b>Total:</b>	<u><b>\$324,000,000.00</b></u>

### Schedule

Design: Start December 2007 and End June 2009.

Construction: Start January 2010 and End March 2013.

## 70, 71, and 72: Pole Bridge Wastewater Treatment Plant Expansion

---

### Background

The Pole Bridge Wastewater Treatment Plant is located at 4664 Flat Bridge Road, Lithonia. The original plant was constructed in 1973 with an original capacity of 3 MGD. The plant underwent major expansion in the early 1990's. The plant has an EPD permitted capacity of 20 MGD. The average annual daily average flow in 2006 was approximately 13.7 MGD. Based on available population projection data from the Atlanta Regional Commission and the U.S. Census Bureau, the annual average daily wastewater flows from the Pole Bridge service area are projected to be approximately 17.9 MGD in 2010, 20 MGD in 2015, 22 MGD in 2020, and 26.1 MGD in 2030.

In addition to the projected increases in wastewater flows, the mechanical systems at the plant are aging; the plant is not operating at optimum efficiency; and the limits of pollutant concentrations in the effluent will probably be lowered in the foreseeable future.

### Project Description

The Department proposes to expand the treatment capacity at the Pole Bridge Wastewater Treatment Plant from the current maximum permitted treatment capacity of 20 MGD to a new maximum capacity of approximately 40 MGD. The added treatment capacity at Pole Bridge will accommodate projected future flows for the next 30 to 50 years. The expansion will be done utilizing new state-of-the-art technology that will realize greater levels of treatment efficiency, assure compliance with current and future effluent limits, and realize lower operating and maintenance costs.

### Estimated Design and Construction Costs

Design:	\$11,000,000.00
Construction Management:	<u>\$5,000,000.00</u>
Subtotal:	<u><b>\$16,000,000.00</b></u>
Construction:	\$200,000,000.00
<b>Total:</b>	<u><b>\$216,000,000.00</b></u>

### Schedule

Design: Start December 2007 and End June 2009.

Construction: Start September 2009 and End June 2012.

## **73, 74, and 75: Snapfinger and Pole Bridge Wastewater Treatment Plants Interplant Tunnel Storage and Conveyance System**

---

### **Background**

The Department proposes to construct a tunnel (Interplant Tunnel) connecting the Snapfinger and the Pole Bridge Wastewater Treatment Plants to allow the transfer of untreated wastewater, treated wastewater, and solids between both plants to provide redundancy, increase efficiency, and assure reliability. Once completed, the Interplant Tunnel will allow for diversion of untreated wastewater into the tunnel for storage in the event of a biological, chemical, or nuclear threat to the wastewater treatment plants. In addition, the interplant tunnel will provide storage capacity for wastewater flows exceeding the treatment plants' capacities and, therefore, reduce or eliminate the potential for wastewater overflows and/or spills at the treatment plants and the interceptor sewers immediately upstream of the plants.

### **Project Description**

The project will involve determining the tunnel capacity and dimensions, performing geotechnical investigations, determining the vertical and horizontal alignments, identifying the locations of construction and maintenance shafts locations, designing the tunnel and pump station, developing construction documents and assisting the Department with the bid process, providing construction management services, and constructing the tunnel.

### **Estimated Design and Construction Costs**

Design:	\$16,379,500.00
Construction Management:	<u>\$6,800,000.00</u>
Subtotal:	<u><b>\$23,179,500.00</b></u>
Construction:	\$175,000,000.00
<b>Total:</b>	<u><b>\$198,179,500.00</b></u>

### **Schedule**

Design: Start December 2007 and End June 2009.

Construction: Start September 2009 and End June 2011.



## 76, 77, and 78: East Area Tunnel

---

### Background

The Department proposes to construct an East Area Tunnel to convey wastewater flows from the Yellow River, Johnson Creek, Pine Mountain, Honey Creek, and Upper and Lower Crooked Creek basins. Construction of the East Area Tunnel would potentially reduce the number of pumping stations required to pump wastewater to Pole Bridge which would potentially realize operation and maintenance (O&M) cost savings. The East Area Tunnel will be sized to convey build-out flows for the east area and along the tunnel alignment. In addition, the East Area Tunnel will be designed in such a manner so as to provide storage capacity for peak wet weather wastewater flows and, therefore, reduce or eliminate the potential for wastewater overflows and/or spills.

### Project Description

The project will involve performing a feasibility study and, if approved by the Department, determining the tunnel capacity and dimensions, performing geotechnical investigations, determining the vertical and horizontal alignments, identifying the locations of construction and maintenance shafts, designing the tunnel and pump station (s), developing construction documents and assisting the Department with the bid process, providing construction management services, and constructing the tunnel.

### Estimated Design and Construction Costs

Feasibility Study:	\$1,000,000.00
Design:	\$7,264,982.00
Construction Management:	<u>\$3,431,233.00</u>
Subtotal:	<b><u>\$11,696,215.00</u></b>
Construction:	\$88,303,785.00
<b>Total:</b>	<b><u>\$100,000,000.00</u></b>

### Schedule

Feasibility Study: Start December 2007 and End June 2008.

Design: Start August 2008 and End June 2009.

Construction: Start January 2010 and End December 2012.

## **79: CIP Upgrade to Jackson Creek – Gwinnett County**

---

### **Background**

DeKalb County currently has an agreement with Gwinnett County to send 1 to 2 MGD of wastewater to the Jackson Creek Wastewater Treatment facility.

### **Project Description**

Gwinnett County is in the process of upgrading the Jackson Creek facility. Under the agreement between DeKalb and Gwinnett Counties, DeKalb County is required to pay its proportionate share of the construction costs for the Jackson Creek facility.

### **Estimated Cost**

Construction:           \$3,100,000.00

### **Schedule**

Start July 2007 and End March 2010.

## **80: Redirect Sewer Flow from Gwinnett County to Shoals Creek**

---

### **Background**

Presently, sanitary sewer flows are collected and conveyed from Lucky Shoals & Camp Creek Drainage Basins to Gwinnett County for treatment and disposal. Discussions with Gwinnett County have indicated that current and future wastewater treatment costs are expected to be higher than what DeKalb County pays now. Therefore, the Department is considering a plan to collect and convey the wastewater flows, currently going to Gwinnett County Jackson Creek Wastewater Treatment facility, via a series of pumping stations and forcemain system, to the City of Atlanta R.M. Clayton WRC for treatment and disposal. A preliminary study indicated that the wastewater flow redirect to Shoals Creek and the City of Atlanta R.M. Clayton WRC facility for processing may be cost-effective in the long run, because DeKalb County has treatment capacity at RM Clayton Plant.

### **Project Description**

The Department has embarked on a plan to redirect wastewater flows from Gwinnett County and transport same to the City of Atlanta R.M. Clayton WRC for treatment and disposal. Preliminary indication is that if the plan is implemented, it may be more cost-effective to DeKalb County to process the wastewater flows at the City of Atlanta R.M. Clayton WRC. This project covers design fees only.

### **Estimated Cost**

Design:           \$200,000.00

### **Schedule**

Start December 2007 and End July 2008.

## 81 and 82: Lower Crooked Creek Lift Station

---

### Background

Rapid development in DeKalb County's Lower Crooked Creek Basin has outgrown the wastewater handling capacity of the Lower Crooked Creek lift stations and transmission system. As a result, the three major pumping stations, namely Lower Crooked Creek Lift Station Nos. 1, 2, and 3, and the transmission system, require design upgrade improvements to accommodate sanitary sewerage flows associated with current and future development in the Lower Crooked Creek Basin. In accordance with an existing Inter-Governmental Agreement, the Lower Crooked Creek Lift Station and transmission facilities have to accept and process a total of 5 MGD from Gwinnett County for conveyance, treatment, and disposal at the Pole Bridge Creek Wastewater Treatment Plant.

The Department completed a design development report (DDR) for the project on September 19, 2005. The DDR constitutes approximately 20 percent of the design. Subsequently, based on BOC approval, the Department is in the process of finalizing the design package required for the Lower Crooked Creek Lift Station and Flow Monitoring Improvements.

### Project Description

Lower Crooked Creek Lift Station No.1: Add a discharge flow meter and replace bar screens with channel grinders.

Lower Crooked Creek Lift No. 2: Add a discharge flow meter, and one new pump with variable frequency drive, and supporting electrical infrastructure.

Lower Crooked Creek Lift Station No. 3: Add a discharge flow meter and a new 30-inch or 36-inch force main depending on the results of the design. Gravity sewer improvements along South Stone Mountain-Lithonia Road.

### Estimated Design and Construction Costs

Design:	\$650,000.00
Construction:	<u>\$9,700,000.00</u>
<b>Total:</b>	<b><u>\$10,350,000.00</u></b>

### Schedule

Design: Start November 2007 and End July 2008.

Construction: Start in January 2009 and End February 2011.

## 83 and 84: Stonecrest Sanitary Sewer Upgrade

---

### Background

In 2005, the Department completed Stonecrest Sanitary Sewer System Design Development Report (DDR) to address sanitary sewer capacity concerns for the County, above the Stonecrest Mall area. Growth and development in the area continue to expand above and beyond the existing sanitary sewer collection and conveyance infrastructure capacities and capabilities. In 2005, following several meetings with potential developers, the County assured the stakeholders that sanitary sewer capacity would be increased by June 2007.

In July 2007, the Department started design for the Stonecrest Sanitary Sewer Upgrade.

### Project Description

Harmony Hills Lift Station: Abandon lift station and 4-inch force main and replace with a 24-inch gravity sewer.

Johnson Creek Lift Station: Replace existing lift station located within the 100-Yr Flood Plain. Replace the first half of the existing 10-inch force main with a 16-inch force main. Replace the second half of the existing 10-inch force main with a 30-inch gravity sewer following a different route.

Lithonia #1 and #2 Lift Stations: Replace existing Lithonia #1, abandon Lithonia #2, and install a new 20-inch force main starting from Lithonia #1 to the existing outfall of Lithonia #2 force main.

Honey Creek Basin: Install a new 24-inch gravity sewer parallel to the existing 18-inch gravity sewer.

Install a new 30-inch gravity sewer parallel to the existing 30 and 36-inch gravity sewers.

### Estimated Design and Construction Costs

Design:	\$750,000.00
Construction	<u>\$10,500,000.00</u>

<b>Total:</b>	<b><u>\$11,250,000.00</u></b>
---------------	-------------------------------

### Schedule

Design: Start July 2007 and End April 2008.

Construction: Start August 2008 and End February 2010.

## 85 and 86: Snapfinger Wastewater Treatment Plant SCADA System

---

### Background

The Snapfinger Creek Wastewater Treatment Plant is located at 4124 Flakes Mill Road, Decatur. The original plant was constructed in the early 1960's and expanded in 4 separate occasions over the subsequent 20 years. The plant has an EPD permitted capacity of 36 MGD. The average annual daily average flow in 2006 was approximately 28.5 MGD. Currently the Plant has no automated monitoring system and all checks must be performed by plant personnel, resulting in higher personnel costs.

In addition to the projected increases in wastewater flows, the mechanical systems at the plant are aging; the plant is not operating at optimum efficiency; and the limits of pollutant concentrations in the effluent will probably be lowered in the foreseeable future.

### Project Description

The Department desires to install a computerized supervisory control and data acquisition (SCADA) system to improve the operation of the current Snapfinger Wastewater Treatment Plant. This project should lower the personnel requirements and allow for plant management to make better process decisions and avoid noncompliance. The computerized system will allow staff and management to monitor and control the plant in real time resulting in fewer operational problems.

### Estimated Design and Construction Costs

Design:	\$350,000.00
Construction:	<u>\$1,500,000.00</u>
<b>Total:</b>	<b><u>\$1,850,000.00</u></b>

### Schedule

Design: Start January 2007 and End March 2008.

Construction: Start June 2008 and End June 2009.

## **87: Snapfinger Condition Assessment and Modeling**

---

### **Background**

The Snapfinger Creek Wastewater Treatment Plant is located at 4124 Flakes Mills Road, Decatur. The original plant was constructed in the early 1960's and expanded in 4 separate occasions over the subsequent 20 years. The plant has an EPD permitted capacity of 36 MGD. The average annual daily average flow in 2006 was approximately 28.5 MGD.

The plant's Influent Lift Station experienced a major mechanical failure in January 2006 which resulted in a 10 million gallon spill of raw wastewater into the waters of the State. Subsequently, the County entered into a consent order with the EPD, which included performing a condition assessment of the plant.

### **Project Description**

The Department contracted a consultant to evaluate the condition of the plant's existing electrical/electronic and mechanical equipment as well as the existing preventive maintenance program of the plant. The results of this evaluation were presented to the Department which in-turn enhanced the existing maintenance program.

### **Estimated Cost**

Evaluation and Modeling:                      \$270,000.00

### **Schedule**

Start July 2007 and End December 2007.

## **88: Portable Bypass Pumps**

---

### **Background**

The existing sanitary sewer collection and conveyance system has experienced sanitary sewer overflows and spills over the past 5 years. The nature and quantity of spills require the Department staff to respond quickly and effectively, in order to prevent sewerage from reaching the “Waters of the State”. This being the case, the Department is requesting new portable bypass pumps and appurtenances to assist with responding to potential spills and reducing future Georgia EPD Consent Orders.

### **Project Description**

The Department proposes to purchase new Portable Bypass Pumps to effectively and efficiently address spill response and mitigate future Georgia EPD Consent Orders.

### **Estimated Cost**

Construction:           \$1,000,000.00

### **Schedule**

Construction: Start November 2007 and End March 2008.



## 89 and 90: Honey Creek Lift Station Upgrade

---

### Background

The tremendous growth and development currently being experienced in and upgradient of the Stonecrest Mall area have forced the Department to embark on a plan for capacity design upgrade for the Honey Creek Lift Station and appurtenances. The existing lift station and sewer conveyance infrastructures are unable to keep pace with current and future capacity demand for the service areas.

### Project Description

The Department proposes to plan and design sanitary sewer capacity upgrades for the existing Honey Creek Lift Station and appurtenances to efficiently and effectively transport wastewater to the Pole Bridge Creek Wastewater Treatment Plant.

### Estimated Design and Construction Costs

Design:	\$400,000.00
Construction:	<u>\$2,700,000.00</u>
<b>Total:</b>	<b><u>\$3,100,000.00</u></b>

### Schedule

Design: Start December 2007 and End May 2008.

Construction: Start September 2008 and End July 2009.

## 91: New Roadhaven Building

---

### Background

The Department has occupied its current building since 1974. Over the years, the Department has grown, and is in need of more space.

### Project Description

The Department plans to expand its current office building either through acquisition of an existing building, or expansion of the current building.

### Estimated Design and Construction Costs

Design:	\$650,000.00
Construction:	<u>\$7,350,000.00</u>

<b>Total:</b>	<b><u>\$8,000,000.00</u></b>
---------------	------------------------------

### Schedule

Design: Start May 2007 and End January 2008.

Construction: Start March 2008 and End December 2009.

## 92: Water Systems Interconnections

---

### Background

The Metropolitan North Georgia Water Planning District water supply and conservation management plan requires its member counties to study, identify, and implement interconnections of their water systems to allow water sharing during times of emergency.

### Project Descriptions

The Department is in the process of locating its existing interconnections and identifying new locations in which to establish new connections. This project will evaluate critical needs during an emergency, flow requirements, pressure points, and distribution strategy.

### Estimated Costs

Water Systems Interconnections      \$4,000,000.00

### Schedule

Design: Start January 2008 and End March 2008.

Construction: Start June 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## **93: Sanitary Sewer Forcemain Location**

---

### **Background**

As part of the EPA mandated CMOM program, the Department is in the process of performing an inventory and mapping of its sewer collection system. The existing contract does not include locating force mains. The Department proposes to locate and map its force mains to comply with the CMOM program and to facilitate maintenance.

### **Project Description**

This project is needed to study the infrastructure of the wastewater collection system. It will provide a comprehensive map of the sewer force main system including GIS information and allow the Department to prioritize the rehabilitation of these infrastructures to eliminate future sanitary sewer overflows and spills.

### **Estimated Cost**

Force Main Mapping:           \$500,000.00

### **Schedule**

Start January 2008 and End December 2008.

## 94: Program Modifications/Capital/Fleet Contribution

---

### Background

The Department maintains the fleet of equipment and vehicles to support the work of construction and maintenance of water and wastewater infrastructure.

### Project Description

This project encompasses the acquisition of a variety of small to medium vehicles, equipment, and tools that are typically attached to the annual budget for review and consideration. It is used by various Divisions in the Department to adjust their programs where needed. Examples of this include changes in regulations that would require additional lab equipment and addition of a new piece of equipment (towed light tower, computers, excavator) or rolling stock (valve exercising truck, new rod truck) to the fleet.

### Estimated Cost

Program Modifications/Capital/Fleet Contribution	\$30,630,600.00
--	-----------------

### Schedule

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.

## 95: Department of Watershed Management Business Plan

---

### Background

The management of the Department recognizes that running the Department is similar to running a business from both process and financial perspectives. The Department is currently developing a Strategic Plan that is aimed at defining the mission, vision, values, and goals and objectives of the Department. The Department proposes to develop a 5-year business plan that focuses the Department operations and decision-making practices around predetermined level of service goals. The business plan will include a value-driven approach to capital improvement projects planning, repair, rehabilitation, and replacement funding.

### Project Description

The Business Plan will involve the following tasks:

- Refining the Strategic Plan that is currently being developed.
- Defining the level of service for each Division of the Department.
- Developing an Asset Management Plan.
- Developing a Financial Plan.

The Business Plan will be reviewed and updated annually before the annual budgets are prepared.

### Estimated Cost for Developing the Business Plan

Business Plan	\$400,000.00
---------------	--------------

### Schedule

Start January 2008 and End December 2009.

## **96: Septic Tank Elimination Program (STEP)**

---

### **Background**

DeKalb County has an estimated 30,000 septic tank systems. Approximately 21,000 of these systems are over 30 years old or malfunctioning. Malfunctioning and failing systems can cause various health and environmental concerns such as, surfacing raw sewage, untreated wastewater discharged into surface waters, and unpleasant odors. Currently the Department uses a petition process to provide sewer services to those who would like to connect to sanitary sewer. Recently the Health Department deemed several areas within the county as critical areas that need to be connected to public sewer.

### **Project Description**

The Department has decided to institute a Septic Tank Elimination Program (STEP) to address these failures. This program will target seven areas which have been deemed by the Health Department as critical. The STEP will provide a low interest revolving loan to aid the residents with the construction costs of installing public sewer lines. This revolving loan will last no more than 3 years for each resident and all income levels are permitted to participate. The STEP will also provide assistance to seniors and low-income citizens.

The ultimate goal of this program is to be in compliance with all regulatory requirements and mandates placed upon the Department by Federal and State agencies.

### **Estimated Cost**

STEP	\$4,000,000.00
------	----------------

### **Schedule**

Start January 2008 and End December 2011.

Note: This project will continue beyond the year 2011.